MECHANICAL AND TECHNICAL OCCUPATIONAL TRAINEE
(MTOT)

NATURE OF THE JOB

Individuals who are employed as Mechanical and Technical Occupational Trainees (MTOT's) are assigned to do unskilled and semi-skilled work in or around hydroelectric pumping or generating plants, aqueducts (canals), dams and reservoirs. MTOT's will assist journey-level crafts and will be under close supervision and observation during this time. Employees will be expected to demonstrate their ability to work with common hand tools and power tools, to read and comprehend written instructions and procedures, to make mathematical computations, and to show their ability to grasp and understand concepts of the workplace.

Employment in this classification is temporary (up to nine months duration) and is used to evaluate the employee's ability and whether or not they are likely to succeed in meeting the work and learning demands required in the next higher Service Assistant and Hydroelectric Plant apprenticeship classification.

Two very important skills will be involved in the work of an MTOT:

1. **Mathematical Computations** – completion of a high school math curriculum that includes algebra, is almost an essential requirement for success in this program.

2. **Reading Comprehension** – ability to read high school level written material with good comprehension is important because this program requires a large amount of independent reading assignments involving concepts of electrical and mechanical equipment, operation and maintenance.

The attached training outline for MTOT shows the subject areas that employees will be expected to train in. MTOT's will also be required to demonstrate their ability to learn and carry out responsible work assignments.

	Hours Per Year
ORIENTATION	**72 hours**

1. Position duties and responsibilities
2. Rules and regulations
3. Records, reports and documentation
4. Overview of the State Water Project
5. Local orientation and organization review
6. Tours of facilities

SAFETY PROCEDURES	**40 hours**

1. Action to be taken for First Aid
2. Action to be taken in case of fire
3. Use of breathing apparatus
4. Safety Rules Handbook
5. Function of the Safety Committee
6. Reporting safety hazards
7. Clearance Procedures
8. Defensive Driving
9. Tailgate meetings

Hours Per Year

OPERATIONAL PROCEDURES **238 hours**

1. Station, Field Division and Project Operating Orders

2. Equipment and Operational logs

6. Vehicle operation and responsibility

4. Learn and demonstrate general knowledge of and ability to operate all communication equipment such as radio, telephone, teletype, aqueduct land line and plant code call systems.

5. Plant cleaning procedures and stations.

6. Reporting faulty equipment

PRINTS, DRAWINGS AND MANUALS **120 hours**

1. Locate and identify plant prints

2. Locate and identify plant operating manuals

3. Locate and identify plant MEI's

4. Locate and identify electrical components using prints

5. Locate and identify mechanical components using prints

6. Locate and identify civil components using prints

7. Prepare drawings as directed on selected plant systems

AUXILIARY and SERVICE SYSTEMS **120 hours**

1. Locate and identify plant auxiliary and service systems

2. Study, learn and demonstrate a general knowledge of plant auxiliary and service systems.

Hours Per Year

RELAY PROTECTION **40 hours**

1. Study and learn the Relay Device Number Standards

2. Locate and identify all relay protection within the field division

3. Learn and demonstrate a general knowledge of electrical relays

MAIN SWITCHYARD **40 hours**

1. Study, learn and identify plant switchyard equipment

2. Learn and demonstrate a general knowledge of the plant switchyard equipment

MAIN UNITS **200 hours**

1. Learn and demonstrate the identification and location of the main units and associate auxiliary equipment

2. Learn and demonstrate a general knowledge of main units such as motors, pumps, valves, gates, and auxiliary equipment including interlocks, protective and control devices and related plant systems

DC SYSTEMS and EQUIPMENT **40 hours**

1. Locate and identify all DC systems and equipment

2. Learn and demonstrate a general knowledge of DC systems and equipment such as batteries, rectifiers, motor generators, inverters, switchgear and DC protective and control devices

	Hours Per Year
MAIN WATERWAY	**40 hours**
1. Study, learn and demonstrate a general knowledge of main waterway systems including penstocks, check site and turnout controls, plant power and water scheduling and operation	
CONTROL SYSTEMS	**50 hours**
1. Learn and demonstrate a general knowledge of computers, supervisory control and site processors including software, hardware, communication and system interface, CRT readouts and printer.	
TOTAL =	**1000 hours**